

### REMARKS

This Amendment and Response is in reply to the Examiner's Action dated 10 August 2005.

Claim 25 has been amended to remedy a duplication word.

The Examiner has rejected claims 1-44 and 54-58 under 35 U.S.C. §103(a) over Evans, U.S. Patent No. 6,616,971, in view of Shaw et al., U.S. Patent No. 4,643,940. Neither the form of the thermoplastic nor the fiber in the primary reference relates to the invention. The secondary reference does not supply information that cures the lack of teaching in the reference. Applicant respectfully traverses the rejection.

Both the Evans and Shaw et al. references relate to composite materials that differ from the claimed material. Before discussing the Evans and Shaw et al. references, Applicant reminds the Examiner that the claims recite a composite material comprising a continuous fused matrix containing nylon and a polyolefin. The matrix includes a reinforcing nylon fiber having a defined length and diameter selected for this application.

To establish a *prima facie* case of obviousness, three basic criteria must be met:

- (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings without hindsight to the claimed invention.
- (2) There must be a reasonable expectation of success.
- (3) The prior art references must teach or suggest all the claim limitations.

See In re Vaack, 20 USPQ.2d 1438 (Fed. Cir. 1991); MPEP § 2143 et seq.

First, Evans and Shaw do not teach all of the elements of the invention. The Evans reference uses high strength fiber, typically in a fabric or tow structure, made from glass, Kevlar (polyaramide) or graphite fiber. The term "polyaramide" does not refer, in general, to or include the types of nylon fibers claimed since the polyaramide materials generally refer to high strength Kevlar type materials made from aromatic diacids and similar amines.

The polymers in Evans are derived from aqueous dispersions of very small particle size polymer materials that are combined with the high strength fibers. On the whole, the Evans reference does not suggest composites comprising a blend of nylon and a polyolefin material in

the composite. Further, the high strength fibers of Evans appear to be in the form of a woven fabrics, fiber tows or bundles of indeterminate length and not the claimed comminuted or chopped fiber materials.

Further, Evans states at Column 7, lines 34-38 as follows:

A defect-free matrix cannot be accomplished when a polymer melt is forced at high pressure in the gaps between the individual fibers due to continuing flow of the matrix once the melt has impregnated the fibers.

Clearly, the Evans patent disclaims any relation to thermoplastic matrix formation and does not relate to the thermal processing of melt polymer with the fiber of the invention. This is entirely consistent with the theory of Evans such that it is a critical and required aspect of the Evans invention that the fiber be contacted with an aqueous dispersion of very small thermoplastic particulate materials such that the small particles can associate with the fiber and prevent the formation of any voids or defects common in melt processing. Clearly, it is extraordinarily unlikely that one of ordinary skill in the art would be able to modify the Evans invention without destroying the utility of the invention since it teaches avoiding melt processing.

The Shaw et al. reference does not remedy the problems of the Evans reference. Since the Evans reference is primarily directed to fiber structures such as fabrics and fiber bundles of substantially indeterminate length, one of ordinary skill in the art would not combine the Shaw et al. reference with the Evans reference, since these structures are so enormously different. The Shaw et al. reference also relates to graphite, metal and other high strength fibers. The largest diameter of the Shaw et al. reference is no greater than about 0.07 millimeter due to the aspect ratio of the fiber while Applicant has recited that the fiber diameter is greater than 0.2 millimeter. Clearly, the fiber of Shaw et al, even if it was combinable with the Evans reference is different than that claimed. The Shaw et al. reference additionally does not teach the specific combination of nylon and polyolefin in the composite material.

These references cannot be logically combined. Shaw relates to a thermoplastic matrix while the Evans reference uses an aqueous dispersion to apply the particulate to the fiber. The

form of the fiber is Evans is different than the fiber in Shaw. These references cannot be selected without knowledge of the invention and the application of hindsight.

No likelihood of success is seen in this combination. The fibers and the thermoplastics are in different forms in the references. Substantial reconstruction of the inventions must be done to obtain the invention. The invention cannot be obtained from these without hindsight.

Further, it would not be obvious to select the claimed fiber length and diameter characteristics based on this prior art. The Examiner is reminded that these fiber sizes are obtained when the carpet starting material is chopped into a material suitable for extrusion. Not only is this chopping step necessary to obtain a material that can be successfully extruded, but Applicant has additionally found that these fiber parameters (length and diameter) provide a very high strength, moisture resistant product of consistent quality. Nothing in the prior art suggests that these fiber dimensions can be used in such a composite to result in the useful product of the invention.

Since the prior art neither suggests the combination of nylon and polyolefin, nor the selection of fiber diameter and length, Applicant asserts that the prior art does not suggest the invention is obvious in light of the prior art. The prior art does not teach all of the elements of the invention, does not suggest that the references can be combined logically and little or no expectation of success is obtained from any combination, however illogical. Applicant respectfully requests the Examiner to pass these claims to allowance.

Respectfully submitted,

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Date

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